Written by Terry Wireman, C.P.M.M. Editorial Director
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Thermographic inspections are an important part of any predictive maintenance program. This updated listing of suppliers is your guide to some of the top technologies and services in this "hot" market.

Thermal imaging has evolved into a valuable diagnostic tool for predictive maintenance. By detecting problems as they develop, thermography allows corrective actions to be taken before electrical, mechanical or process equipment fails. Thus, an infrared inspection (IR) program can provide a quick return on investment (ROI).

Not all companies are rapidly implementing infrared thermography programs, however. The barriers often cited tend to be in the financial arena—time, personnel, camera cost, training or contractor expense.

The most-mentioned aspect of the financial barriers is the lack of awareness of the benefits to the bottom line. In other words, companies do not understand cost avoidance accounting principles and are unwilling to invest in proper tools or to spend enough on contract inspections.

The main factor standing in the way of the effective use of infrared thermography technology appears to center on the cost of high-level education and training. It’s not only training in thermography, but the other associated topics such as materials science, physics, and thermodynamics,"plus knowledge of how things work, from engines and turbines to buildings’ thermal insulation or HVAC units," as one inspection service provider put it. This indicates that training beyond just the use of predictive tools is necessary for thermography to provide a return on investment.

Advice from experts

IR experts surveyed for this article told us that users of infrared thermography should not try to immediately build a program that meets all of their needs. Rather, you should allow your program to be dynamic. Also, remember the importance of good record-keeping for trending purposes.

Be sure to communicate what your infrared program is contributing to the organization as well. "Tout your program, as often as you possibly can, in a professional, reasonable way, so that when money is tight, people will understand your value," was the advice from one provider.

A little outside-the-box thinking helps, too. "There are unique applications for nearly every industry, or even every facility. Sometimes it takes a little imagination, but the benefits can be staggering," one supplier told us.

Are you trying to justify an IR program? Comments like those from our surveyed suppliers should tell you that it is crucial to prepare a report on what additional repair costs and downtime losses are avoided when the infrared program finds and prevents an equipment or structure (roof) failure.

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New applications

Suppliers in this update also were asked about new applications for infrared thermography– in the plant and otherwise.

In plant applications, ITR cited monitoring of couplings and cranes, while Mikron Infrared noted monitoring of boiler tubes and continuous monitoring of electrical control panels.

Snell Inspections and Infrared Solutions found companies doing more building inspections, such as building envelope,HVAC and roof moisture surveys and inspections.

Expert Infrared Inspections has performed inspections on a 4 MW extremeduty DC motor in a steel mill and on television-broadcasting equipment. Outside the plant, Cantronic Systems pointed to a particularly well-publicized new use of infrared thermography–the measuring of people's body temperatures in airports during the frightening 2003 severe acute respiratory syndrome (SARS) outbreak.

Mikron Infrared cited an application in monitoring coal piles, while Infrared Research Inc. provided an environmental application that checked for illegal discharges in streams and waterways.

Monitoring of leaf temperatures to improve irrigation was an outside-the-plant application forwarded by IRISYS.

Other new applications included using infrared to spot rodent and termite problems (Infrared Solutions), for metal shredding systems (FLIR Systems) and security (ASC Systems).

Going forward

As thermographic technologies continue to mature, one thing's for certain–more and more applications will become common.

The question that each company needs to ask itself today is: "are we applying the technology now, to avoid unnecessary downtime and prevent damage to our equipment?"

The following list of suppliers can help with the answer.

Detecting Problems Sooner

Newer tools and technologies have improved the accuracy of thermographic inspections. These days, an infrared inspection program can provide a company with a quick return on its investment. **MT**

Infrared thermography suppliers Academy of Infrared Training Bellingham,WA (888) 673-4743

ACTT/ Anderson Consulting,Training & Testing Houston, TX (800) 836-7333

Advanced Electric La Crosse WI (866) 243-4863
Advanced Infrared Resources Yorba Linda CA (250) 579-2141
AAIT/Allen Applied InfraredTechnology South River NJ (732) 238-8874

BPC International Inc. Tulsa OK (888) 962-4327
C&I Inspections LLC South Jordan UT (801) 718-4914
Cantronic Systems Inc. Coquitlam BC (866) 391-6970
Colbert Infrared Services, Inc. Seattle WA (800) 800-8178
Electrophysics Corp. Fairfield NJ (800) 759-9577
Emerson Process Management Knoxville TN (800) 675-8033
EMP Engineering Services Dresher PA (215) 793-9783
Expert Infrared Inspections Lombard IL (630) 935-7226
FLIR Systems, Inc. North Billerica A (800) 464-6372
Hot Spots Pocatello ID (208) 232-2695
HSB Thermography Services Alexandria VA (800) 231-0907
Infrared Consulting Services Minneapolis MN (888) 925-4404
Infrared Predictive Surveys Frederick MD (800) 869-3720
Infrared Research Inc. Rossville GA (800) 866-7480
Infrared Solutions, Inc. Plymouth MN (800) 760-4523
Infraspection Institute Div. of T/IR Systems Burlington NJ (866) 228-4788

IRISYS/ InfraRed Integrated Systems Northants UK 44-1327-357824
ISG Thermal Systems USA, Inc. Lawrenceville GA (877) 733-3473
ITR, Inc. Bethlehem PA (800) 360-3594
Jersey Infrared Consultants Burlington NJ (800) 772-6017
Maintenance Technologies Intl Milford CT (800) 510-0181
Measurements/Emspec New Orleans LA (800) 520-1586
Midwest Infrared Services Inc. Somerset Center MI (866) 309-6596
Mikron Infrared, Inc. Hancock MI (888) 506-3900
Monroe Infrared Technology, Inc. Kennebunk ME (800) 221-0163
NPM Services Inc. Bowling Green KY (866) 315-2667
PMCI Elk Grove Village IL (800) 222-7624
Palmer Wahl Instrumentation Group Asheville NC (800) 421-2853

Predict Monitoring Systems Inc. Welland ON (800) 234-2345
Predictive Maintenance Inspection Madison AL (256) 721-0100
Predictive Service Corp. Cleveland OH (866) 772-6770
Predictive Technologies Inc. Pittsford NY (800) 842-8401
Raytek, a Fluke company Santa Cruz CA (800) 866-5478
Snell Infrared Montpelier VT (800) 636-9820
Snell Inspections Montpelier VT (800) 636-9820
Thermal Trend Seattle WA (800) 800-8178

Thermoscan, Inc.	Burr Ridge IL	(800) 833-1740
Thermotest, Inc.	San Rafael CA	(800) 640-3133
Universal Utility Services, LLC	Amarillo TX	(806) 378-4185